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13   UNITED STATES DISTRICT COURT

14   NORTHERN DISTRICT OF CALIFORNIA

15   SAN FRANCISCO DIVISION

16

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   FRANCE TELECOM S.A.,   Case No. 12-CV-04967 (WHO)
18
              Plaintiff,   **MARVELL SEMICONDUCTOR, INC.'S
19   REPLY TO PLAINTIFF'S
        vs.   MEMORANDUM IN OPPOSITION TO
20   MARVELL SEMICONDUCTOR, INC.'S
   MARVELL SEMICONDUCTOR, INC.,   MOTION FOR JUDGMENT AS A
21   MATTER OF LAW & RULE 52 MOTION
              Defendant.   FOR JUDGMENT**
22
23   **Date**: January 14, 2015
                                           Time: 3:00 p.m.
24   **Place**: Courtroom 12, 19th Floor
                                           Judge: Hon. William H. Orrick
25

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I. FRANCE TELECOM FAILS TO REBUT MSI'S ARGUMENTS FOR JUDGMENT OF NONINFRINGEMENT

In an effort to elide the operative claim construction, Plaintiff insists (Plaintiff's Memorandum in Opposition ("Opp.") at 2, 4, 5, 11) that the "jury was free to accept the testimony of Dr. Mitzenmacher and to reject that of Dr. Min." But neither France Telecom, nor its expert, nor a rational jury is free to deviate from this Court's instruction as to the correct claim construction. Here, the substance of the undisputed evidence (as opposed to the *ipse dixit* of Dr. Mitzenmacher) permits only one rational conclusion—namely, that the method claim as properly construed has not actually been infringed. *Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 242 (1993) ("[W]hen indisputable record facts contradict or otherwise render [an expert] opinion unreasonable, it cannot support a jury's verdict."); *Ericsson, Inc., et al. v. D-Link Systems, Inc., et al.*, Appeal No. 2013-1625, -1631, -1632, -1633, 2014 WL 6804864, at *16-*17 (Fed. Cir. Dec. 4, 2014) (reversing district court that denied JMOL believing that "jury was entitled to credit Ericsson's expert over D-Link's expert," while overlooking that Ericsson's expert's admissions contradicted his opinion of infringement); *Newell Cos. v. Kenney Mfg. Co.*, 864 F.2d 757, 767 (Fed. Cir. 1988) (jury is not "free to discard probative admissions and undisputed facts.") It is telling that, while opposing JMOL of noninfringement, France Telecom omits grappling with the operative claim language or this Court's construction of same. Comparing the undisputed record evidence against those dictates JMOL of noninfringement.

A. MSI's Products Do Not Meet The Claim Limitation "Each Of Said Coding Steps . . . Providing Parallel Outputs Of Distinct Series Of Coded Data Elements"

France Telecom argues (Opp. at 1-2) that Dr. Mitzenmacher testified that "the accused products provide 'parallel outputs of distinct series of coded data elements,' precisely as required by claim 1 . . . ." But France Telecom (like its expert) makes that point only by veering away from the terms of the claim itself and over to Figure 1 instead. What the claim itself actually requires, by its terms, is that "*each* of said coding steps" (not just one or the other) provide "parallel outputs" of coded data elements:

> 1. A method for error-correction coding of source digital data elements, comprising the steps of:

> implementing at least two independent and parallel steps of systematic convolutional coding, **each of said coding steps** taking account of all of said source data elements and **providing parallel outputs of distinct series of coded data elements**;
>
> and temporally interleaving said source data elements to modify the order in which said source data elements are taken into account for at least one of said coding steps.

At trial, there was *no argument*, and certainly *no evidence*, that *each* coding step in MSI's products provides parallel outputs of coded data elements. To the contrary, France Telecom's theory of infringement has always depended upon the proposition that only the encoder *as a whole* need provide parallel outputs. As explained in MSI's motion, that theory is unavailing because the plain and ordinary meaning of the claim language requires *more*. (D.I. 354, MSI's Combined Rule 50 & 52 Motion ("Br.") at 3-8).

France Telecom now tries (Opp. at 2-3), *post hoc* and for the first time, to argue that record evidence actually fits the claim requirement that "each coding step itself must output two parallel sets of coded data elements." Because this argument was not made to the jury, it is waived. *Ramona Equip. Rental, Inc. ex rel. U.S. v. Carolina Cas. Ins. Co.*, 755 F.3d 1063, 1070 (9th Cir. 2014) (quoting *Beech Aircraft Corp. v. United States,* 51 F.3d 834, 841 (9th Cir. 1995) ("That Plaintiffs raised the issue in a post judgment motion does not save this issue for appeal . . . . Because Plaintiffs could have raised the issue at or before trial and because they have not presented any valid reason for not having done so, we decline to consider Plaintiffs' . . . argument."). Even if not waived, however, the supposed "evidence" cited by France Telecom is anything but substantial: France Telecom is reduced to relying upon a passing comment by Dr. Mitzenmacher—too cryptic even to be probative—that "it turns out these [coding steps] output *something else,* a third output. That does not impact my analysis . . ." (Opp. at 3 (emphasis added)). No testimony or argument at trial came close to establishing that the "something else" thus referred to was a *parallel output of a distinct series of coded data elements*, as it would need to be in order to satisfy the claim. In contrast, the clear, undisputed testimony of Dr. Min foreclosed any such understanding of what Dr. Mitzenmacher might have been referencing—for

Dr. Min testified, quite definitively and unequivocally, that there is, in fact, only one output of coded data provided by each coding step. Br. at 4, citing 9/25/14 Tr. (Min) 1314:17-1315:15; EX 112, 826, 826A, at MSIFT 19536 and 9/22/14 Tr. (Mitzenmacher) at 511:17-22 (opining that the parallel outputs of coded data elements are Y from the first coding step and Y' from the second coding step, but not that each step itself provides parallel outputs of coded data elements).

In sum, Plaintiff offered the jury no evidentiary path to a rational finding of infringement. Because claim 1, by its plain terms, requires "each" coding step to provide parallel outputs of coded data elements, and no reasonable jury could find this limitation met by the accused products, MSI respectfully seeks entry of judgment as a matter of law of noninfringement.

B.   MSI's Products Do Not Implement "At Least Two Independent And Parallel Steps Of Systematic Convolutional Coding"

Judgment of noninfringement is separately dictated by an additional limitation of the claim, requiring that the accused products implement at least two steps of "systematic convolutional coding." In now arguing that limitation has been satisfied (Opp. at 4), France Telecom interprets the Court's claim construction as though it does not require transmission, which it in fact *does*. *See*, *e.g.*, D.I. 141 at 9 ("The parties agree that in 'systematic' coding, copies of the uncoded data elements are transmitted along with the coded data elements."); *id.* at 13 ("As France Telecom does not dispute, coded and uncoded data elements must be transmitted together for coding to be systematic.") Once France Telecom's misreading of the Court's claim construction is corrected, judgment of noninfringement follows inexorably.

Under the Court's construction, "systematic convolutional coding" means "convolutional coding where the output includes both the coded data and the current input data." That is, each step of systematic convolutional coding must output the current input data. Dr. Mitzenmacher admitted that, in MSI's accused products, the alleged current input data, X', is "**not output** in the normal course of encoding." (9/22/14 Tr. (Mitzenmacher) at 567:4-9). And he so admitted because X' is not transmitted. This admission should be fatal to Plaintiff's infringement case.

If any doubt remained, Dr. Mitzenmacher extinguished it by submitting a sworn affidavit attesting that, under the Court's construction, "systematic convolutional coding" requires an

"efficiency rate of ¼ *because four elements would be <u>transmitted</u> for each source data element.*"[1] (*Id.* at 576:13-577:3). That record evidence thoroughly contradicts the opinion that Dr. Mitzenmacher later offered at trial and renders it unreasonable. *Brooke Grp.,* 509 U.S. at 242 (1993) ("[W]hen indisputable record facts contradict or otherwise render [an expert] opinion unreasonable, [the opinion] cannot support a jury's verdict.").[2]

Accordingly, MSI respectfully seeks entry of judgment as a matter of law of noninfringement on this ground as well.[3]

C.   France Telecom Failed To Present Evidence Of Direct Infringement

Unable to identify a single act of direct infringement by MSI, France Telecom now advances for the first time (Opp. at 12-15) theories of agency and ratification based on testing by Marvell Israel Ltd. ("MIL"). But these *post hoc* theories are as inapposite as they are late. To begin with, because these theories were not offered during trial, they are waived. *Ramona Equip.*,

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[1] Although France Telecom accuses MSI of seeking a new claim construction for "systematic convolutional coding," the Court's claim construction ruling—as well as Dr. Mitzenmacher's sworn declaration—makes clear that output refers to transmission. (Br. at 5). As France Telecom itself notes (Br. at 26, 32, 34),"the whole point" of error correction technology is *transmission* of data. The parties' dispute during claim construction, as the Court correctly observed, revolved around whether the source data elements provided as inputs to each coding step need only be transmitted *jointly* (*i.e.*, only once) or whether each encoder had to transmit its input source data element. And the Court rejected France Telecom's side of this argument, concluding it does not suffice for the input source data element to be transmitted jointly with coded data elements. (D.I. 141 at 13 ("As France Telecom does not dispute, coded and uncoded data elements must be transmitted together for coding to be systematic.")).

[2] France Telecom wrongly contends (Opp. at 7-8) that MSI misled the jury with Mr. Dagan's presentation. The animation simply illustrated what Dr. Mitzenmacher admitted: X' is not output in the normal course of encoding; it is only used during a tail biting phase when no current input data is being input. Also, contrary to France Telecom's creative reading of Mr. Dagan's testimony about how current input data is "generated" (Br. at 7), Mr. Dagan did not testify that X' is output. Mr. Dagan was very clear in taking the exact opposite view—as illustrated in his slides.

[3] France Telecom makes much of correspondence between the RSC encoder name and the hardware, but that is irrelevant. Claim 1 is not directed to a specific piece of hardware (or to any structure, for that matter). All that matters is how the encoders are used. And the encoders undisputedly function differently: whereas RSC 1 outputs current input data, RSC 2 does not. (9/22/14 Tr. (Mitzenmacher) at 567:4-9).

755 F.3d at 1070.

In order to be bound by the acts of a purported agent, a principal must grant the agent actual authority. *See* Restatement (Third) Of Agency § 1.01 (2006) (agents "act on the principal's behalf and subject to the principal's control"). This record does not support a finding of an agency relationship; France Telecom has not offered evidence that MIL acted on MSI's behalf or subject to MSI's control. Ordinary corporate structuring arrangements are not grounds to find a principal-agent relationship. *See A. Stucki Co. v. Worthington Indus., Inc.*, 849 F.2d 593, 596-97 (Fed. Cir. 1988) (parent not liable for infringement by subsidiary absent evidence "justifying disregard" of their status as "distinct, separate corporations"). There is no evidence that MSI is a parent of MIL (or vice versa) and, in fact, it is not.

Alternatively, France Telecom contends that MSI could ratify actions taken by MIL. But ratification only occurs where a principal, *post hoc*, consents to a change in its legal relationships based on actions by an actor who "acted or purported to act as an agent." *See* Restatement (Third) Of Agency § 4.01-.03. France Telecom has never attempted to prove these prerequisites: it did not seek a jury instruction on agency or ratification, it did not present evidence or argue that during the course of testing MIL held itself out as MSI's agent, and it did not present evidence or argue that following testing MSI agreed to be legally bound by MIL's actions. The most the evidence shows is simply that MSI benefited from testing performed on accused products and may have advertised based upon it.[4] But the mere fact that MSI may have *benefited* from something MIL opted to do, by no means establishes that MIL was acting as MSI's *agent* in doing it. *See* Dkt. 160 at 23-24 (Ruling on summary judgment that France Telecom's argument that MSI would agree to be liable for third party MAPL's infringement was without basis, "weak", "attenuated", and consisted of "speculating without any factual support that [MSI] would undertake such an obligation.")

None of the cases France Telecom cites support its claim. Indeed, the cited cases are procedurally inapposite, as they were at a pleading or summary judgment stage, not, post-trial.

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[4] The record does not even show that any product tested by MIL in fact performed the claimed method.

Bangkok Broad. & T.V. Co. v. IPTV Corp., 742 F. Supp. 2d 1101, 1120 (C.D. Cal. 2010); *Bowoto v. Chevron Texaco Corp.*, 312 F. Supp. 2d 1229, 1247 (N.D. Cal. 2004); *Strikeforce Techs, Inc. v. Phonefactor, Inc*., Civ. A. No. 13-490, 2013 U.S. Dist. LEXIS 162113, at *15 (D. Del. Nov. 14, 2013); *E. & J. Gallo Winery v. EnCana Energy Servs., Inc*., No. CVF03-5412 AWI LJO, 2008 WL 2220396, at *26-27 (E.D. Cal. May 27, 2008). Notably, in *E. & J. Gallo Winery,* plaintiffs actually *lost* on summary judgment on their agency claims. 2008 WL 2220396, at *26-27. More fundamentally, the cited cases speak to whether a subsidiary's actions could be attributed to *a principal;* here, MIL is not a subsidiary of MSI. Given that parent corporations generally are not liable for the actions of their subsidiaries, *see generally United States v. Bestfoods*, 524 U.S. 51, 61 (1998), it follows *a fortiori* that MSI, which is *not* even MIL's parent, cannot be held liable for MIL's actions. France Telecom has never argued, much less proved, that MSI has the power or authority to direct, control, or ratify MIL's actions. Taking a handful of ambiguous first-person plural quotes from a MIL engineer, as France Telecom does (Opp. 15), cannot justify piercing the corporate veil between MSI and MIL or otherwise ignoring clear corporate structures. *See Manville Sales Corp. v. Paramount Sys., Inc.*, 917 F.2d 544, 552-53 (Fed. Cir. 1990) (reversing district court's decision to pierce the corporate veil).

As a fallback, France Telecom argues (Opp. at 17) that it was entitled to prove infringement of a method claim through circumstantial evidence, "without any direct evidence of use." It is true that circumstantial evidence will suffice in cases where accused products *can be used only in an infringing manner,* or are directed to be used in an infringing manner *to the exclusion* of other optional uses, but it is true *only* in *those* cases. In cases like this, in contrast, where the accused products can be used in noninfringing modes (*e.g.*, convolutional coding, rather than turbo coding), a patentee must "point to specific instances of direct infringement or show that the accused device *necessarily* infringes the patent in suit." *See, e.g., Acco Brands, Inc. v. ABA Locks Mfrs. Co., Ltd.*, 501 F.3d 1307, 1313 (Fed. Cir. 2007). For this reason, the cases France Telecom cites do not help it. The patented method in *Moleculon Research Corp. v. CBS, Inc.*, a solution for a Rubik's Cube–like puzzle, was the *only* intended use of the accused products. 793 F.2d 1261, 1272 (Fed. Cir. 1986). Similarly, in *Lucent Techs., Inc. v. Gateway*, direct

infringement was based on more than manuals and sales; it was based on **direct evidence of use by a third party** (specifically, the expert's fact testimony that both he and his wife, as long-time customers of the defendant, had performed every step of the claimed method many times, well before he was retained as an expert). 580 F.3d 1301, 1318 (Fed. Cir. 2009); *see also Mirror Worlds, LLC v. Apple Inc.*, 692 F.3d 1351, 1361 (Fed. Cir. 2012) (distinguishing *Lucent* because "here . . . there was no similar testimony of total use of the claimed method from *Mirror Worlds'* infringement expert"); *see also Fujitsu Ltd. v. Netgear Inc.*, 620 F.3d 1321, 1329 (Fed. Cir. 2010) (affirming summary judgment of no infringement because "the manuals and expert testing only show that the products are capable of infringing, they do not provide evidence of direct infringement").

Here, there is no dispute that the accused products in this case, 3G chips capable of performing turbo coding, are capable of many noninfringing uses, including the option of using a convolutional coding scheme, which is not even accused. (Br. at 10, EX 814, at FT033834). Contrary to France Telecom's assertions (Opp. at 17-19), the facts do not require (nor does the law permit) an inference that direct infringement has occurred. Such an inference is reasonable **only** when direct infringement will **necessarily** result from use, or where a user is directed to use an infringing feature **to the exclusion** of other optional uses. Thus, in *Toshiba Corp. v. Imation Corp.*, the Federal Circuit inferred direct infringement specifically because user manuals for the accused DVD-recording products instructed users to select the infringing disc-at-once mode, and to avoid using the noninfringing multi-session mode. 681 F.3d 1358, 1365 (Fed. Cir. 2012). At the same time, the Court expressly differentiated a circumstance in which user manuals merely describe an **optional** function that the device is capable of performing, if selected by the user, as insusceptible to an inference of direct infringement. *Id.*; *see also Fujitsu*, 620 F.3d at 1329 (finding insufficient evidence of direct infringement despite user manuals describing possible infringing use of accused product).

Despite alleging "millions" of sales of smartphones with MSI's 3G chips and a likelihood

that at least one user performed the claimed method (Opp. at 17), France Telecom failed to identify *any* specific evidence of actual direct infringement:[5]

> [D]irect infringement of a method claim cannot be determined on speculation, assumptions, or inferences. ***If it was inconceivable to Mirror Worlds that the accused features were not practiced by Apple, it should have had no difficulty in meeting its burden of proof and in introducing testimony of such use.*** Mirror Worlds simply failed to present sufficient evidence from which a reasonable jury could find that Apple, or anyone else, practiced each and every step of the claimed methods by using the [accused features]. While it is important to persuade a jury, it is imperative to present a "legally sufficient evidentiary basis" to support that persuasion.

Mirror Worlds, LLC v. Apple, Inc., 784 F. Supp. 2d 703, 715 (E.D. Tex. 2011), *aff'd* 692 F.3d 1351 (Fed. Cir. 2012) (internal citations omitted). In *Mirror Worlds*, the Federal Circuit affirmed the district court's finding that circumstantial evidence failed to prove third-party direct infringement. *Mirror Worlds*, 692 F.3d at 1361-62. France Telecom cannot base "its direct infringement analysis on what it assumed happened, rather than on actual evidence of record. . . . [A] patentee must prove infringement by a preponderance of the evidence." *Meyer Intellectual Props. Ltd. v. Bodum, Inc.*, 690 F.3d 1354, 1370 (Fed. Cir. 2012).

Because France Telecom failed to offer requisite evidence of a specific instance of direct infringement in the United States by MSI, the judgment of infringement cannot stand.

II. FRANCE TELECOM FAILS TO REBUT MSI'S ARGUMENTS FOR JUDGMENT OF INVALIDITY

A. France Telecom Failed To Name The Proper Inventors

In claiming (Opp. at 21) "there was more than sufficient evidence for the jury to render a verdict in favor of France Telecom" on inventorship, France Telecom again disregards undisputed evidence to the contrary: specifically, the testimony of its own inventor that Dr. Glavieux made a "strong contribution" to the invention of "turbo codes." 9/17/2014 Tr. (Berrou) at 208:1-21 ("[A]

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[5] As discussed above, France Telecom presented no proof that ***MSI*** used any of the accused chips to practice each and every step of the claimed method in the United States. *See also* Br. at 8-10. And, because the jury found that MSI was not liable for indirect infringement (D.I. 320 at 2), it necessarily determined that neither MIL nor any other third party practiced the claimed method either.

strong contribution of Alain Glavieux was to advise me to work in the field of error correction, and specifically soft output Viterbi algorithm.") Dr. Berrou went so far as crediting Dr. Glavieux with contributing to the "aha moment" and fundamental idea of feedback underlying turbo coding. *Id.* at 209:5-14 ("'Q. And did you remember having a moment – you know, a moment, an aha moment when you thought I really have something that's special here?' You gave the following answer: 'A. This idea of feedback was fundamental, essential. And again, I come back to my discussions with Professor Alain Glavieux.'")

Against the backdrop of those admissions, no reasonable jury could find that Dr. Berrou was the sole inventor of turbo codes.

B.   Claim 1 Is An Obvious Combination Of Known Coding Steps

In an attempt to discount Dr. Berrou's admissions regarding Dr. Glavieux's "strong contributions" to the invention, France Telecom (Opp. at 21) for the first time treats "turbo codes" as referring to "***the overall technology, not the '747 patent***," much less claim 1 thereof. Accepting that as true cuts the legs out from under France Telecom's argument of nonobviousness based on secondary considerations. "It is the established rule that 'objective evidence of non-obviousness must be commensurate in scope with the claims which the evidence is offered to support.'" *Allergan, Inc. v. Apotex Inc.,* 754 F.3d 952, 965 (Fed. Cir. 2014) (citing *Application of Tiffin*, 448 F.2d 791, 792, 58 C.C.P.A. 1420 (CCPA 1971)). This is because, "[o]bviousness, like other grounds of invalidity, must be analyzed on a ***claim-by-claim*** basis." *Ortho Pharm. Corp. v. Smith*, 959 F.2d 936, 942 (Fed. Cir. 1992) (concluding that all grounds of invalidity must be evaluated against ***individual claims***). Here, contrary to France Telecom's suggestion (Opp. at 24) there is simply no evidence of a nexus between the success of "turbo codes," on the one hand, and claim 1, on the other.

Claim 1 is directed to a combination of known coding concepts, including systematic convolutional coding, parallel coding, and temporal interleaving. Because these steps can be

combined only so many ways, it would have been obvious to try each permutation.[6] *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1331 (Fed. Cir. 2009) (finding a claim directed to e-mail distribution obvious because it was "obvious to try"). And there is no evidence that the claimed steps, as distinct from the "overall technology" of turbo coding, bear a nexus to the cited secondary considerations. If anything, the evidence, including the 1993 paper and the Marconi prize, shows that success resulted from, to quote France Telecom, (Opp. at 21) the "new work" or "later work" of Drs. Berrou and Glavieux, culminating in their joint articles and so-called follow-on turbo code patents. Nor is there any evidence that France Telecom's licensees practice claim 1 of the patent, as opposed to one or another of the remaining 21 claims.

C. The Coding Steps Of Claim 1 Are Abstract Ideas Untethered By Any Physical Structure

The mainstay of France Telecom's effort to stave off invalidity under § 101—that claim 1 somehow recites a "particularized structure" for error-correction coding—misapprehends patent law and misapplies controlling precedent. Viewed through the proper lens, claim 1 cannot and does not recite patent eligible subject matter and is therefore invalid under § 101.

Contrary to France Telecom's suggestion (Opp. at 25-28, 35), claim 1 is not directed to "structural features" or an "arrangement of components." Rather, claim 1 is quite plainly directed to a method claim devoid of any recitation of physical structure.[7] Indeed, this Court has already ruled that the claimed method does not reference "material objects or specific examples" or identify "a concrete thing, consisting of parts, or of certain devices and combination of devices." (D.I. 160 at 13, 16). Thus, as noted (Br. at 21-26), claim 1 is a mathematical algorithm.

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[6] France Telecom's argument that Kasahara's switch prevents source data from going to both encoders ignores that the claim does not require simultaneity-the source data can flow to one, then switch to the other. (9/25/14 Tr. (Min) 1323:9-1327:6; 9/29/2014 Tr. (Mitzenmacher) 1782:25-1784:3).

[7] France Telecom relies on *Quanta Computer, Inc. v. LG Elecs., Inc.*, 553 U.S. 617 (2008) (Opp. at 26) for the proposition that "[a]pparatus and method claims may approach each other so nearly that it will be difficult to distinguish the process from the function of the apparatus." That is true only where the process claim recites the structure of the apparatus claim. Here, there is no such structure recited.

Moreover, contrary to France Telecom (Opp. at 29-30), simply appending conventional steps (or even components) to an abstract idea cannot rescue a claim from invalidity. As the Federal Circuit noted in *Digitech*, "[i]f a claim is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory."[8] *Digitech Image Techs., LLC v. Electronics for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014) (quoting *Parker v. Flook*, 437 U.S. 584, 596 (1978)); *see also Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1300 (2012) ("simply appending conventional steps, specified at a high level of generality, to laws of nature, natural phenomena, and abstract ideas cannot make those laws, phenomena, and ideas patentable").

Moreover, MSI has already shown that each individual step recited in claim 1 was known in the prior art. (Br. at 14). Claude Berrou, the named inventor on the '747 patent, admitted as much at trial. 9/17/2014 Tr. (Berrou) 192:18-24 (error-correction coding), 193:10-12 (systematic coding), 193:13-14 (convolutional coding), 193:23-25 (independent steps of coding), 194:10-13 (concatenation of codes), 194:14-15 (temporal interleaving). The Supreme Court has made clear that the addition of conventional components cannot inject "sufficiently inventive concepts" into a claimed invention under the *Mayo* framework. *Mayo*, 132 S. Ct. 1299 (citing *Flook*, 437 U.S. at 594, and noting the recited elements "were all 'well known,' to the point where, putting the formula to the side, there was no 'inventive concept' in the claimed application of the formula"); *see also Flook*, 437 U.S. at 590 (noting that "post-solution activity" that is "conventional or obvious in itself" cannot "transform an unpatentable principle into a patentable process").

France Telecom's arguments (Opp. at 31-32) regarding human implementation of the claimed method likewise miss the mark. Contrary to France Telecom's assertion, Dr. Min demonstrated at length how a human being can implement two independent and parallel steps of systematic convolutional coding, where each step takes into account all source data elements and

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[8] The *Digitech* court found that that claim did not include any sufficiently inventive concepts because "nothing in the claim language expressly tie[d] the method to an image processor." *Id.* at 1351. Claim 1 of the '747 patent, just like the claim in *Digitech*, is not tied to any hardware or processor. 9/30/14 Tr. (Min) at 2074:11-20, 2102:23-25, 2103:1-20, 2103:21-2104:2, 2104:9-17.

where each step provides parallel outputs of distinct series of coded data elements. (Br. at 21-23, 26). Dr. Min also demonstrated how a human being can perform a step of temporally interleaving the source data elements to modify the order in which they are accounted for in one coding step. (*Id.* at 24, 26).

France Telecom now alleges (Opp. at 31) that a human cannot "implement" the parallel coding steps or provide "parallel outputs" of coded data elements. Here, again, France Telecom ignores that its method claim is entirely devoid of physical structure. As Dr. Min testified at the hearing, a human being can certainly "implement" two steps of coding and a step of temporal interleaving. (Br. at 21-24, 26). Nowhere does the claim require implementation "on the scale necessary for transmission of data in a noise environment," as France Telecom seems to allege. (Opp. at 32). The term "parallel" means not in series and refers to how the steps are performed; it does not specify any particular structure or manner for performing the claimed steps such that a human would be unable to perform those steps in parallel. In fact, France Telecom's argument during claim construction directly contradicts its current position on "parallel outputs." (D.I. 83 at 13-16). There, it argued that "parallel" did *not* require that steps be performed simultaneously— only that they not be performed in series. *Id.* at 16 (arguing "the claims, specification, and prosecution history wholly reject the idea that the (at least two) coding steps must be 'simultaneously carried out.'"; *see also* D.I. 98 at ¶ 30 ("parallel does not mean simultaneous; they are clearly used as distinct terms"). Similarly, Dr. Mitzenmacher admitted at the trial: "And parallel is, of course, in contrast to [series]. They work side by side." (9/22/2017 Tr. (Mitzenmacher) 500:15-16). As explained in MSI's motion, Dr. Min performed at trial two steps of coding that provided parallel outputs—two outputs that were not "in series" but provided "side by side." (Br. at 21-23).

France Telecom asserts (Opp. at 33-35) that claim 1 satisfies both prongs of the machine-or-transformation test. It is wrong on both counts. With respect to the machine prong, France Telecom incorrectly notes that claim 1 requires "implementation" of the method along with associated "construction of circuits and devices." (*Id.* at 33). As discussed above, however, claim 1 is directed only to the ***process*** comprising the two steps recited in the claim (and nothing more).

1 Claim 1 does not recite a general purpose computer or memory, let alone a machine or apparatus

2 that meaningfully contributes to the alleged invention. As this Court has already noted, therefore,

3 claim 1 plainly fails the machine prong. (D.I. 160 at 16) ("To be sure, the claims seem to fail the

4 'machine' prong of the test because there is nothing in the claims that identifies 'a concrete thing,

5 consisting of parts, or of certain devices and combination of devices.'"); *SiRF Tech., Inc. v. Int'l*

6 *Trade Comm'n*, 601 F.3d 1319, 1332 (Fed. Cir. 2010).

7   Finally, with respect to the transformation prong, France Telecom asserts, without any

8 support whatsoever, that claim 1 "changes the state" of the data it is encoding—thereby producing

9 a "new thing." (Opp. at 34). Not only does that assertion find no support from the Federal

10 Circuit, but the Federal Circuit has held precisely the opposite—that the transformation of data

11 ***does not*** constitute a patent-eligible transformation. *CyberSource Corp. v. Retail Decisions, Inc.*,

12 654 F.3d 1366, 1375 (Fed. Cir. 2011) ("The mere manipulation or reorganization of data … does

13 not satisfy the transformation prong."). In short, claim 1 is directed to precisely the type of

14 process that is "so abstract and sweeping" as to be ineligible for patent protection, and should be

15 found invalid under 35 U.S.C. § 101. *Digitech*, 758 F.3d at 1351 (citing *Gottschalk v. Benson*,

16 409 U.S. 63, 68 (1972).

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